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Characterization of concentration points and L^∞ -estimates for solutions of a semilinear Neumann problem involving the critical Sobolev exponent. (English) [Zbl 0814.35029](#)
Differ. Integral Equ. 8, No. 1, 41-68 (1995).

Summary: Let $\Omega \subset \mathbb{R}^n$ ($n \geq 7$) be a bounded domain with smooth boundary. For $\lambda > 0$, let u_λ be a solution of

$$-\Delta u + \lambda u = u^{(n+2)/(n-2)}, \quad u > 0 \quad \text{in } \Omega, \quad \partial u / \partial \nu = 0 \quad \text{on } \partial \Omega$$

whose energy is less than the first critical level. We study the blow up points and the L^∞ -estimates of u_λ as $\lambda \rightarrow \infty$. We show that the blow up points are the critical points of the mean curvature on the boundary.

MSC:

[35J65](#) Nonlinear boundary value problems for linear elliptic equations
[35B40](#) Asymptotic behavior of solutions to PDEs
[35P30](#) Nonlinear eigenvalue problems and nonlinear spectral theory for PDEs

Cited in **2** Reviews
Cited in **23** Documents

Keywords:

semilinear Neumann problem; L^∞ -estimates; blow up points